

**FEDERAL ENERGY REGULATORY COMMISSION**  
WASHINGTON, D.C. 20426

OFFICE OF THE COMMISSIONER

April 17, 2013

The Honorable Ed Whitfield, Chairman  
Subcommittee on Energy and Power  
House of Representatives  
Committee on Energy and Commerce  
2125 Rayburn House Office Building  
Washington, D.C. 20515-61115

Dear Representative Whitfield:

Thank you for your April 3, 2013 letter which contained additional questions for the hearing record on “American Energy Security and Innovation: The Role of Regulators and Grid Operators in Meeting Natural Gas and Electric Coordination Challenges.” Please find enclosed my responses to your questions. I want to thank you again for the opportunity to appear before the Subcommittee on Energy and Power on March 19, 2013 to discuss the challenges associated with increased gas-electric interdependence.

Sincerely,

Cheryl A. LaFleur

cc: The Honorable Bobby Rush, Ranking Member  
Subcommittee on Energy and Power

## The Honorable Ed Whitfield

1. **The EPA's suite of power sector regulations is forcing thousands of megawatts of coal-fired generation to retire. This could have adverse impacts on reliability. Last Congress, in a hearing before this Subcommittee, FERC committed to better coordination with EPA and DOE regarding the reliability impacts of EPA's power sector regulations.**
  - a. **Has this coordination among the agencies occurred? If yes, please provide the details with respect to how often the agencies have been meeting and the topics discussed. Please also provide an update with respect to how effective the coordination has been to address reliability planning, as well as your personal involvement (or that of your staff) in such discussions. If such coordination has not occurred or has not been effective in addressing reliability matters, please explain why.**

Answer: Yes, coordination among the agencies occurs on a regular basis. FERC, DOE and EPA hold monthly conference calls with the Regional Transmission Organizations (RTOs), the planning authorities most affected by the EPA regulations. The RTOs discuss both short term and long term planning issues associated with grid reliability during these calls. During a typical call, an RTO provides information regarding generators that are planning to retrofit or retire their units in response to EPA regulations or other business decisions. RTOs also discuss areas of concern, including the timing and location of specific projects. While RTOs reported that some generators sought a fourth year extension from the EPA, no generators have requested a fifth year extension to date. RTOs have stated that they do not expect such requests unless additional unexpected generator outages or other environmental concerns arise.

In addition, I co-chair the FERC-NARUC Forum on Reliability and the Environment with Commissioner Moeller and NARUC colleagues. This group meets three times a year to discuss potential impacts of the EPA regulations and how to ensure that reliability is protected. Senior representatives from EPA have attended every meeting of the Forum.

- b. **Much has been discussed about the "fifth year" option as it relates to compliance with EPA's Utility MACT Rule. Based on discussions with EPA, DOE, the White House, or others, it is your sense that a clear path for the fifth year has been established should certain reliability-critical units be needed to run in order to avoid reliability impacts. Please provide any**

Answer: In its Utility MACT Rule, the EPA has set out a path for obtaining a fifth year for compliance. EPA has stated that FERC is one of the entities whose advice it would solicit in making its decision to grant a fifth year for compliance. The Commission issued a policy statement on May 17, 2012, outlining how it will advise the EPA on requests for additional time for electric generators to comply with EPA's mercury and air toxics standards rule. Under the policy statement, generators submit to FERC as informational filings requests to EPA for extra time for compliance. The Commission examines whether compliance with EPA's rule could result in a violation of a FERC-approved reliability standard or present other issues within the Commission's jurisdiction. In addition, as stated above, FERC, EPA, and DOE continue to discuss the potential for the fifth year compliance option with the RTOs at regularly scheduled meetings. To date, no generator has submitted a request to FERC for an additional fifth year to comply with EPA's MACT rule.

**2. I understand that certain scheduling differences between the natural gas and electricity markets are creating some challenges. Can you expand upon some of these scheduling differences and what can be done to help reconcile these differences, if necessary?**

Answer: Natural gas pipeline capacity is nominated and scheduled for the forthcoming 24-hour period or "day," beginning at 9 am Central time, pursuant to business practice standards adopted by the North American Energy Standards Board (NAESB). This is standard pipeline industry practice. For the electric industry, each regional transmission organization (RTO) and independent system operator (ISO) that administers an organized energy market where generators bid to provide electricity has its own timelines for when a generator must bid and when the RTO or ISO confirms the generator's schedules for electricity production which begins to flow at midnight local time. These scheduling differences may result in challenges for generators because the timing of natural gas purchase and delivery arrangements is not synchronized with the timeframe for bidding into wholesale electric markets. For example, in the mid-Atlantic region, a generator would need to nominate pipeline capacity (i.e., inform the pipeline how much capacity it wants) by 9 am and then inform PJM, for example, at noon of its bid to supply energy into the day-ahead market. Typically the best time to procure gas supply and nominate pipeline capacity—when the markets are most liquid—passes before gas-fired generators know whether they have been scheduled in the day-ahead electric market.

In areas of the country where electricity is procured through bilateral transactions, there are still challenges presented by scheduling coordination between the electricity and gas industries. Electricity production must follow the demand curve, so electric generators must respond to changes in load. The often less predictable and more granular changes in gas demand for electricity generation can pose challenges to scheduling, even in regions with vertically integrated utilities with firm gas supply contracts.

Whether and if so, how, to reconcile the differences has been the subject of numerous meetings over the last several years. The Commission held five regional technical conferences in 2012 to examine key gas-electric coordination issues, including scheduling. During those conferences, some entities stated that they are able to accommodate the existing differences in natural gas and electric scheduling while others expressed concerns, but without specific details identifying what reforms could address the mismatch. A further technical conference is scheduled for April 25, 2013 with the purpose of further exploring concerns regarding gas-electric scheduling conflicts, considering whether adjustments to existing rules or practices are needed, and identifying specific areas in which additional guidance or regulatory changes could be considered.

**3. You testified that gas-electric interdependence issues are currently most visible in the New England area, which is highly reliant on natural gas-fired generation. Earlier this year, a cold snap in New England led to wholesale power prices that were 5 times higher than the previous year, spiking from \$30 per megawatt-hour to nearly \$150 per megawatt-hour. This spike was attributed in part to inadequate pipeline capacity, which drove up the cost of natural gas.**

**a. What can FERC do to help mitigate problems like this from occurring in the future?**

Answer: As RTOs and ISOs develop solutions to address regional gas-electric independence issues, the Commission can act expeditiously on any proposed tariff changes they may submit to implement those solutions. For example, on November 13, 2012, ISO New England Inc. (ISO-NE) submitted changes to its Information Policy to allow for more granular information sharing between ISO-NE and the New England pipelines, and the Commission ultimately accepted those changes on an interim basis to address immediate reliability-related concerns for the winter.<sup>1</sup> Currently, the Commission has another filing pending before it in

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<sup>1</sup> *ISO New England Inc.*, 142 FERC ¶ 61,058 (2013).

which ISO-NE and the New England Power Pool (NEPOOL) Participants Committee propose changes to the timing of its day-ahead energy market due to increasing reliance on natural gas-fueled generators at times when there is an increasingly tight availability of pipeline capacity.<sup>2</sup> This pending filing proposes to move up the timeline for day-ahead unit commitment and the resource adequacy assessment process in an effort to provide additional time to ensure that gas-fired generators may procure gas supplies and delivery services so that adequate generation capacity is available.

In addition, as discussed in response to question 2, the Commission held five regional Gas-Electric Coordination Technical Conferences to explore gas-electric interdependence issues. Following the conferences, Commission staff issued a report detailing discussions at the five regional conferences. In addition to providing a background on the issues, the report summarizes regional conferences and ongoing initiatives, as well as topics common to multiple regions. The Commission also issued an order directing staff to convene two additional technical conferences and directing staff and the RTOs and ISOs to report on coordination efforts and activities.

In response to that order, Commission staff recently held a Technical Conference on Communications between Natural Gas and Electric Power at our headquarters and has scheduled a Natural Gas and Electric Scheduling Technical Conference to be held on April 25. The Commission and its staff seek to support the progress being made by the industries on gas-electric coordination matters. Staff actively monitors and engages the industry regarding progress being made in each region, including ISO-NE, and reports to the Commission on a quarterly basis.

**b. You testified that ISO-New England is working on market enhancements to better ensure the adequate supply of fuel for generation. Can you provide any details on what types of "market enhancements" ISO-New England is developing?**

Answer: ISO-NE has communicated that it is currently pursuing a number of near-term, intermediate-term, and long-term initiatives in the region's stakeholder process to address reliability and market concerns related to gas-electric coordination.

I. Near-Term Changes:

- A. Increasing Ten-Minute Non-Spinning Reserve to be procured in the Forward Reserve Market

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<sup>2</sup> See Docket No. ER13-895-000 and ER13-895-001.

Permitting an additional amount of reserves to be procured in the Forward Reserve Market will help support the availability of reserves to meet the increased real-time reserve requirements. The market rule changes were filed on November 27, 2012, and the Commission accepted them on January 17, 2013 in Docket No. ER13-465-000.

B. Modifying generation resource auditing requirements and procedures

The audit requirements and procedure changes are intended to provide ISO-NE with a more accurate assessment of the 10- and 30-minute reserve capability of reserve resources, which should work in conjunction with the modifications to the real-time requirements to ensure sufficient reserve resources. The market rule changes were filed on November 6, 2012, and the Commission accepted them on January 9, 2013 in Docket No. ER13-323-000.

C. Allowing ISO-NE to share information concerning the scheduled output of natural gas-fired generation resources with the operating personnel of the interstate natural gas pipeline companies serving New England

These changes, mentioned in response to part (a) to this question, are intended to allow ISO-NE to better anticipate and address potential reliability problems in the event that there is insufficient fuel for all gas-fired generators to meet their schedules. The market rule changes were filed on November 13, 2012, and the Commission accepted them on an interim basis on January 23, 2013 in Docket No. ER13-356-002.

D. Accelerating the closing time of the Day-Ahead Energy Market

ISO-NE states that these changes, discussed in response to part (a) to this question, are intended to allow it to commit long lead-time resources earlier and to allow participants with gas-fired resources to learn their next-day commitments earlier so that they are able to procure gas based on those commitments. The market rule changes were filed on February 7, 2013, and they are pending before the Commission in Docket No. ER13-895-000 and ER13-895-001.

II. Intermediate-Term Changes:

A. Tightening the Forward Capacity Market Shortage Event Trigger

ISO-NE and stakeholders are discussing tightening the Shortage Event trigger in the Forward Capacity Market to ensure that a shortage event is triggered earlier in a period of reserve deficiency.

The current capacity market design provides financial incentives for resources to perform, and minimize the chance of generation outages during shortage event periods. However, these provisions only apply when available generation is far below the normal target level. According to ISO-NE, these provisions have not adequately indicated when the system is entering a heightened “at risk” period. To address this concern, ISO-NE proposes to initiate a shortage event trigger earlier, that is, during periods when the grid has a deficiency in total operating reserves rather than a deficiency only in 10-minute reserves. By triggering shortage events sooner, resources will have the incentive to perform during at-risk periods over a wider range of at-risk situations that can occur in New England’s power system. ISO-NE plans on proposing market rule changes to address these modifications in August 2013.

B. Allowing market participants to change offers in real-time

Currently, participants are permitted to submit re-offers (i.e., to modify offers used in the day-ahead energy market) only during a two-hour period starting at 4:00 p.m. (ISO-NE proposes to change this time w in pending Docket No. ER13-895-000 and ER13-895-001) on the day before the Operating Day. No re-offers are permitted during the Operating Day. ISO-NE plans to propose allowing offer changes to be made during the Operating Day, which will improve a market participant’s ability to reflect in its energy market offer the cost of obtaining fuel in real time. Offers that are more reflective of actual fuel prices will improve energy market price signals and will permit a better match between those prices and the cost of procuring fuel in real-time. ISO-NE plans to propose the market rule changes during the first half of 2013.

C. Considering procurement of additional intra-day reserve capability

To address fuel dependence risk between now and when ISO-NE implements the longer-term Forward Capacity Market revisions, ISO-NE is considering procuring additional intra-day reserve capability. By providing incentives for additional capacity that can be committed and dispatched within the Operating Day, ISO-NE can reduce the reliability risks posed by intra-day operating problems and reduce the costs of out-of-merit dispatch. ISO-NE is evaluating the feasibility of intra-day reserve procurement and plans to review any required market rule changes with stakeholders during the first half of 2013.

III. Long-Term Changes:

A. Redesigning Forward Capacity Market performance penalties

ISO-NE is planning to propose Forward Capacity Market changes to provide market participants with greater incentives and the capital to meet their Supply Offer obligations. ISO-NE has recently issued a white paper reflecting its planned proposal to change the structure of the incentives and penalties that would apply when the system is short of reserves, and for the penalties to be large enough to justify investment to improve the reliability of a resource's fuel supply.<sup>3</sup> ISO-NE has begun receiving stakeholder feedback on this white paper and currently intends to propose market rule changes for stakeholder consideration in 2013. ISO-NE has indicated to Commission staff that it intends to file proposed rule changes at the end of 2013.

IV. ISO-NE and stakeholders are also addressing fuel adequacy issues related to reliability for the 2013/14 winter period, which may include administrative, out-of-market actions. After addressing issues for the upcoming winter season, ISO-NE and stakeholders will seek to address fuel adequacy issues related to reliability for the 2014/15 winter period and beyond through a more market-based, and less administrative, approach.

**4. In addition to New England, you also mentioned that gas-electric interdependence issues may emerge in other regions as more gas is utilized for generation.**

**a. In what regions do you foresee this potentially becoming an issue? Why?**

Answer: Based on the information presented at the various conferences the Commission has convened, the issue of gas-electric interdependence is not confined to New England. For example, at the central regional gas-electric coordination technical conference last summer, MISO identified concerns about gas-electric interdependencies and reiterated its concerns during FERC staff's February 13 technical conference on communications and information sharing. In follow-up written comments, MISO stated that allowing RTOs and natural gas pipelines to exchange confidential information would allow MISO to operate the system more reliably. During the Southeast regional technical conference, Florida

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<sup>3</sup> Available at [http://www.iso-ne.com/committees/comm\\_wkgrps/strategic\\_planning\\_discussion/materials/fcm\\_performance\\_white\\_paper.pdf](http://www.iso-ne.com/committees/comm_wkgrps/strategic_planning_discussion/materials/fcm_performance_white_paper.pdf)

entities identified that they will need a third pipeline into the state to ensure that adequate gas capacity is available to meet the state's needs.

**b. What is FERC doing to help find solutions for these regions so that they can avoid the difficulties facing the Northeast?**

Answer: The Commission is taking an active role in drawing attention to the pressing issues, facilitating discussion of best practices and other ideas, and, as appropriate, issuing orders addressing specific reforms. After the Commission convened five regional technical conferences and solicited industry comment on a host of gas-electric coordination matters, it issued an order last November drawing attention to several more prominent matters and setting forth a roadmap for how the Commission planned to address the issues in the coming months. Commission staff is executing on this roadmap. It convened a conference on February 13, 2013 on communication matters and has scheduled a technical conference on gas-electric scheduling conflicts for April 25. To ensure the Commission is aware of developments and progress in improving gas-electric coordination around the country, staff has been tasked with making quarterly reports to the Commission. The first of these occurred on March 21, 2013.<sup>4</sup> In addition, the RTOs and ISOs will provide updates on their regional gas-electric coordination efforts to the Commission in May and in November.

During roughly this same period, the Commission has taken action on several natural gas pipeline matters of relevance to the issue of gas-electric coordination. For example, the Commission accepted three proposals that would allow customers, including natural-gas fired generators, additional opportunities to nominate natural gas.

**5. You testified that gas-electric integration issues are most acute during the heating season in regions with a very high gas-utilization and a limited supply of non-gas generators. This hits on the issue of the importance of having fuel diversity in the generation portfolio, an issue we explored in a hearing just two weeks ago.**

**a. Do you believe having a diverse range of fuel resources available to generate electricity is important to providing affordable and reliable service to customers?**

Answer: Yes.

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<sup>4</sup> <http://www.ferc.gov/EventCalendar/Files/20130321152846-A-3-presentation-NEW.pdf>

- b. I understand that FERC does not have jurisdiction over generation, but would you agree that an overreliance on anyone particular fuel source could be problematic from a reliability perspective?**

Answer: Yes.

- 6. You testified that natural gas generators operating in competitive markets overseen by Regional Transmission Organizations are not typically required to enter into long-term firm contracts for natural gas.**
- a. Why are long-term firm contracts important for reliability purposes?**
  - b. Is there a reason why utilities operating in competitive markets don't enter into more long-term firm contracts for natural gas?**
  - c. Are there market incentives or enhancements that could help facilitate greater use of long-term firm contracts for gas in competitive markets?**
  - d. Are long-term firm contracts for gas more prevalent in non-RTO markets? If so, why?**

Answer: As currently structured, natural gas pipelines build new infrastructure based on long-term firm gas transportation contracts. The Commission's regulations neither require nor bar any generator, including natural gas generators, from entering into long-term firm contracts for fuel. Therefore, in competitive wholesale electricity markets, generators make decisions that reflect their competitive position in the market place. Where it is cost-effective to do so, they may enter into long-term firm supply contracts. Where doing so would put them at a competitive disadvantage, those generators may rely on alternative products or services, including from gas marketers, or may obtain secondary firm gas transportation from the holders of the firm capacity for limited durations to ensure they can meet their supply obligations. Long-term firm contracts may be more prevalent in non-RTO markets because the cost of those contracts can be recovered through state-regulated retail rates.

Although procurement of long-term firm contracts is one way to expand natural gas infrastructure, it is not the only and may not be the most economical way to achieve reliability. With respect to natural gas, pipeline capacity can be contracted for on a short- or long-term basis and on a firm or interruptible basis. A long-term firm contract requires the customer to commit to paying for use of that capacity and in exchange the customer has the right to use that capacity, typically without interruption. During peak periods this can be particularly valuable because some

pipeline capacity in some regions may be constrained and pipelines may not be able to provide service to shippers who do not have firm transportation contracts. However, contracting for long-term firm pipeline transportation capacity may not be the only method to ensure reliability. If a natural gas-fired generator expects to run for only a limited number of hours, it may be more economical for that generator to pay other market participants, such as gas marketers or other shippers, to provide the gas supply and pipeline delivery service needed by those gas-fired generators rather than obtain long-term firm pipeline service. During peak periods, when other natural gas consumers are using all available pipeline delivery capacity, back-up alternative fuel supplies may be used to help ensure reliability. The Commission works to ensure that energy markets provide appropriate price signals to ensure safe, reliable and cost-effective service to meet the needs of all consumers. Market participants are exploring ways to help ensure that there is adequate fuel security for electric generators to protect reliability..

### **The Honorable Mike Pompeo**

**Do you believe that FERC has statutory authority to consider climate change when conducting analyses under the National Environmental Policy Act in review of interstate natural gas lines permit applications? If the answer is yes, please identify (a) the scope of that consideration, (b) the relative importance of climate change as a factor when conducting permit application reviews, and (c) the expertise within the Commission to perform such an undertaking.**

Answer: Yes. The Commission is required by NEPA to examine the environmental consequences of proposed actions. Commission staff receives comments from interested parties and conducts studies to determine in each case which environmental issues are relevant. The Commission could examine climate change to the extent that it is shown to be affected by the proposed project, and if there is evidence in the record that quantifies such impacts and provides the basis for mitigation measures or other action. The Commission's staff includes biologists, geologists, and other scientists who have expertise to determine the environmental impacts of proposed projects.

### **The Honorable Edward J. Markey**

- 1. What ideas does the Commission have for promoting the development of additional natural gas pipeline capacity into New England?**

Answer: In general, I believe the Commission's policies have been successful in getting significant pipeline infrastructure sited and built across the United States, however, there are a number of factors outside our control that drive infrastructure investment.

As currently structured, expansion of pipeline capacity is largely a market-driven exercise. New natural gas infrastructure is built based on solicitation of interest by market participants to enter into long-term firm gas transportation contracts. Currently, there are significant new proposed pipeline projects to bring Marcellus Shale natural gas production to market. Additionally, the principal pipelines serving New England have expressed willingness to expand if customers are willing to sign firm long-term contracts. The question then becomes what factors prevent (or could be made to incent) customers from making these commitments to support pipeline expansion into New England. This issue is being debated in New England and possibly other regions of the country and those discussions may provide additional ideas for developing pipeline capacity. We understand that ISO New England is working on a proposal to incentivize electric generators to increase their fuel security. The Commission is closely following the various pipeline proposals and potential market enhancements intended to help improve fuel security, which may include additional natural gas pipeline capacity into New England.

- 2. Firm, long-term natural gas supply contracts are viewed by many as key to establishing the financial assurance needed to build new natural gas pipeline capacity into New England. Yet with the nearby Marcellus formation recently becoming the most productive shale play in the country, many believe that natural gas producers and marketers – who stand to benefit greatly from enhanced pipeline access into New England markets – should assume some of the financial risks associated with this pipeline expansion. What is the precedent for producers and marketers bearing some of the financial burden of pipeline expansion? To what extent can and should producers and marketers share in the risks associated with pipeline expansion into New England?**

Answer: Producers and marketers have demonstrated their willingness to shoulder some of the burden related to pipeline expansions in the Northeast. Nearly every certificated, pending, or proposed project in this area has been supported mostly or entirely by producer and marketer contracts. These projects involved nearly every interstate pipeline in the region, including Transco, Dominion, National Fuel, Millennium, Empire, Columbia, Tennessee, Equitrans, and Texas Eastern. In addition, producers have assumed equity stakes in the proposed Constitution pipeline which is currently in the pre-filing process. At a technical conference last

summer, we were informed by market participants that producers and marketers have, as appropriate, shared in the risk of expanding needed natural gas infrastructure, but will often expand the pipeline only to the closest liquid point – not to the electric generation facility. Commenters, including the American Clean Skies Foundation in a June 2012 report, have described innovative contracting structures that would share the risk between sellers and buyers of natural gas.

- 3. In a recent case, you posed the idea of convening a technical conference at FERC to consider the “overall effectiveness of different capacity market designs in attracting capital, meeting challenges such as gas-electric interdependence, and accommodating different power supply choices.” Please explain the basis for this proposal and what you hope to accomplish through the convening of such a conference and whatever process follows thereafter?**

Answer: Since I have been on the Commission, we have issued a substantial number of orders related to disputes about specific design elements of capacity markets in the organized market regions. Because these markets are subject to frequent litigation, conversations with interested stakeholders are generally forbidden by the rule prohibiting ex parte communications. I believe that a FERC technical conference on capacity market design could enable a structured, on-the-record conversation among a broad range of market participants, market operators, state regulators and other stakeholders from different regions that currently operate or are considering capacity markets. As I noted in my concurrence, the conversation might include a discussion of capacity market fundamentals, including whether the current market designs attract the capital necessary to ensure forward reliability in light of gas-electric interdependence issues and state renewable portfolio standards. The discussion at the conference could inform Commission consideration of specific cases in the future or could support affirmative policy development by the Commission.

- 4. You state in your opinion that one of the matters that the technical conference should consider is the “effectiveness of different capacity market designs.” In New England, the Commission recently approved the inclusion as part of the capacity market design of a minimum-offer price rule, and has not permitted any exemptions from that regimen. Do you anticipate consumer-owned utilities that want to build new energy- and environmentally-efficient gas or renewable generation and use it to meet the utility’s capacity obligations will be able to do so under the minimum offer price regimen? Are you concerned that the minimum-offer rule could lead to these types of resources more frequently failing to “clear” in the New England forward capacity**

Answer: Please note that, since this matter is currently pending before the Commission in a contested proceeding (Docket No. EL13-34-001), I am unable to comment on the merits of these issues at this time. I would be pleased to discuss these issues once they are no longer before the Commission.

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- 5. In the PJM RTO, unlike New England, the Commission has approved categorical, exemptions from that region’s minimum-offer rule for most resource types other than gas-fired resources. At the same time, the Commission has indicated that all “uneconomic entry” suppresses capacity market prices. How does the Commission distinguish the price suppression that it considers to be consistent with just-and-reasonable rates from the price suppression that results in unjust and unreasonable and must be prevented?**

Answer: Please note that, since this matter is currently pending before the Commission in contested proceedings (Docket Nos. EL13-34-001 and ER13-535-000, ER13-535-001), I am unable to comment on the merits of these issues at this time. I would be pleased to discuss these issues once they are no longer before the Commission.